NISTTech

MICROSCOPIC MATERIALS FACTORS IN DETERMINING THE Q-VALUE OF SUPERCONDUCTING TIN COPLANAR WAVEGUIDE RESONATORS

Docket No. 11-001, Publication No. US 2013-0029848

Abstract

Low-loss superconducting devices and methods for fabricating low loss superconducting devices. For example, superconducting devices, such as superconducting resonator devices, are formed with a (200)-oriented texture titanium nitride (TiN) layer to provide high Q, low loss resonator structures particularly suitable for application to radio-frequency (RF) and/or microwave superconducting resonators, such as coplanar waveguide superconducting resonators. In one aspect, a method of forming a superconducting device includes forming a silicon nitride (SiN) seed layer on a substrate, and forming a (200)-oriented texture titanium nitride (TiN) layer on the SiN seed layer.

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References

- US Patent No. 8,954,125

Status of Availability

This invention is available for licensing exclusively or non-exclusively in any field of use.

Last Modified: 05/29/2015